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Remarks

Currently Claims 1-6, 9-17 and 19-20 are pending. Claims 7, 8, 18 and 21-22 and canceled. Claims 1, 13, 17, 19 and 20 are amended.

Restriction Requirement

Claims 1-22 are subject to a restriction requirement, the Office action requiring restriction between:
Group I: claims 1-7 and 9-22 to compounds of formula (I) wherein Y is N, and
Group II: claims 1-6 and 8-22 to compounds of formula (I) wherein Y is CH.

Applicants hereby affirm the provisional election of the claims of the Examiner's Group I (claims 1-7 and 9-22), wherein Y is N. The claims have been amended, and claim 8 has been canceled, to remove non-elected subject matter. Applicants expressly reserve the right to file one or more divisional applications directed toward the canceled subject matter.

Section 112, Second Paragraph Rejections Overcome

Claims 1-7 and 9-22 currently stand rejected under 35 U.S.C. §112, second paragraph, the Office Action stating that the claims are indefinite for recitation of "physiologically functional derivative," and for reciting in claim 22 a process for converting a compound to a physiologically functional derivative. While Applicants' do not agree with the Examiner's rejections, claims 1 and 13 have been amended and claims 21-22 have been canceled for purposes of expediting allowance of the claims. The foregoing rejections are moot in view of these amendments and withdrawal is respectfully requested.

Claim 14 currently stands rejected under 35 U.S.C. §112, second paragraph, the Office Action stating that the composition claim should have more than one ingredient. Applicants respectfully traverse this rejection.

There is no legal authority for the proposition that a composition claim must recite more than one component. There are pharmaceutical compositions which comprise only the active ingredient, such as certain respiratory products. Further, the claim clearly states a "composition comprising". The term "comprising" is open-ended transition phrase which would encompass other components. Applicants are entitled to draft the claim as broadly as the prior art permits. Breadth does not equate to

indefiniteness and the Examiner has presented no prior art which necessitates narrowing claim 14. The scope of the claim is clear --any composition which includes a compound that meets the limitations of claim 1 infringes claim 14. As there is no doubt about the metes and bounds of the claims, withdrawal of this rejection is respectfully requested. Should the Examiner maintain this rejection Applicants expressly request that the rejection include citation to any legal authority in support of this position so that Applicants will be able to properly address the issue on appeal.

Section 112, First Paragraph Rejection Overcome

Claims 1-7 and 9-22 further stand rejected under 35 U.S.C. §112, first paragraph, the Office Action stating that the specification is not enabling for making either a solvate or a physiologically functional derivative of a compound of formula (I). While Applicants' do not agree with the Examiner's rejection, claims 1 and 13 have been amended and claims 21-22 have been canceled for purposes of expediting allowance of the claims. The rejection is moot in view of these amendments and withdrawal is respectfully requested.

Claims 20-22 further stand rejected under 35 U.S.C. §112, first paragraph, the Office Action stating that the specification, while enabling for compounds of formula (I) wherein X is Cl, Br, I or triflate and R^2, R^3 and R^4 is not halogen or alkynyl, it is not enabling for a compound of formula (I) wherein X is Cl, Br, I or triflate and R^2, R^3 and R^4 is halogen or alkynyl. Applicants respectfully submit that the foregoing amendment to claim 20 overcomes this rejection. Support for this amendment can be found throughout Applicants' specification, including at page 16, lines 5-6 and page 17, lines 9 and 14. No new matter is added.

Claims 17-19 further stand rejected under 35 U.S.C. §112, first paragraph, the Office Action stating that the specification, while enabling for treating herpes viral infections due to HSV-1, does not reasonably provide enablement for treatment or prophylaxis of any herpes viral infections. While Applicants do not agree with the Examiner's rejection with respect to other herpes viruses or the prophylaxis of herpes viruses generally, claims 17 and 19 have been amended to specifically recite treatment of a herpes viral infection selected from HSV-1 and HSV-2, for the purpose of expediting allowance of the now-claimed subject matter. Applicants expressly reserve the right

to file one or more continuation applications directed toward the canceled subject matter.

The standard of review under Section 112, first paragraph is whether the specification contains a written description of the invention and of the manner and process of making and using it so as to enable any person skilled in the art to make and use the same without undue experimentation. *Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1371 (Fed. Cir. 1999). A disclosure teaching the manner and process of making and using an invention in terms which correspond in scope to those used in the claims must be taken as being in compliance with the enablement requirement of section 112, first paragraph unless there is a reason to doubt the objective truth of the statements contained therein. MPEP 2164.04. The Examiner bears the burden of establishing a reasonable basis to question the objective truth of Applicants' assertion of enablement. MPEP 2164.04. Applicants respectfully submit that the Office Action fails to provide reasons to doubt the objective truth of Applicants' assertion of enablement with respect to HSV-2 in view of the teaching of the application, the relevant state of the art and the level of predictability in treating HSV-1 and HSV-2 at the time of filing the instant application.

The Office Action does not contest the sufficiency of the disclosure for teaching how to make the claimed compounds, how to formulate them into pharmaceutical compositions or how to administer them to a subject for treatment of HSV-1. The Examiner has acknowledged that the claims are enabled for methods of treating HSV-1 viral infections. Applicants' methods for treating HSV-2 and conditions and diseases associated with herpes viral infections selected from HSV-1 and HSV-1, are carried out in exactly the same manner as the methods for treatment of HSV-1 viral infections for which enablement is acknowledged. The Office Action does not provide any reason why one of skill in the art would reasonably doubt that the same methods for making, formulating and administering the compounds of the invention for the treatment of HSV-1 viral infection could not also be used for the treatment of HSV-2 or a condition or disease resulting from a herpes viral infection selected from HSV-1 and HSV-2. Accordingly, it is respectfully submitted that the Office Action does not provide the objective evidence necessary to establish a *prima facie* case of lack of enablement.

A proper analysis of the Wand's factors establishes that the instant specification is sufficient to enable one skilled in the art to make and use the claimed invention without undue experimentation.

Nature of the Invention

The nature of the invention is novel compounds which can be used for the treatment of HSV-1 or HSV-2 or a condition or disease associated with a herpes viral infection selected from HSV-1 and HSV-2.

State of the Art

The relevant state of the art is that of the invention being claimed (i.e., treatment of HSV-1 and HSV-2). Anti-herpetic compounds, methods for determining their activity, and their use as therapeutic agents were conventional in the art the time of filing the instant application. *See*, Physician's Desk Reference (PDR) for *inter alia*, Zovirax®, Valtrex®, Denavir® and Famvir® (copies enclosed).

Applicants respectfully submit that the knowledge in the art establishes that the HSV-1 and HSV-2 are members of a well-recognized and characterized family of viruses. *See*, Field's VIROLOGY, 4th edition (pp 2381-2397). Further, as clearly evidenced by the labels for the foregoing approved drugs it is well expected that a compound which is effective in the treatment of HSV-1 will also have activity against HSV-2. The Examiner's attention is respectfully directed toward the *Physician's Desk Reference* label for each of the products mentioned above, all of which state that the drug is indicated for treatment of HSV-1 and HSV-2. These labels, while not the exclusive evidence of the state of the art, do provide incontrovertible documentary evidence that the state of the art at the time of filing the instant application included knowledge that a compound effective for one of HSV-1 and HSV-2 would reasonably be expected to have activity against the other and the knowledge of how to administer a drug for the treatment of HSV-2.

The U.S. Patent literature pre-dating Applicants' filing date provides additional evidence that one skilled in the art would reasonably expect a compound showing activity against HSV-2 to also possess activity against HSV-2. *See e.g.*, USPN 4957924, 4355032, and 5246937. Thus, Applicants' disclosure is commensurate with the state of the art as of Applicants' filing date.

Level of Predictability

The level of predictability in the art must necessarily be evaluated in light of the state of the art, i.e., the more advanced the state of the art, the higher the level of predictability. In the instant case it is respectfully submitted that the level of predictability for methods of administering compounds of formula (I) is not as low as the Examiner as represented. The medical community has experience administering antiviral compounds to subjects in need of treatment of HSV-1 and HSV-2 as clearly evidenced by the PDR labels for approved anti-herpetic compounds. Furthermore, given the number of approved drug products which have been shown to be active against both HSV-1 and HSV-2, Applicants have clearly shown that one of ordinary skill in the art would reasonably expect that a compound exhibiting activity against HSV-1 would also posses activity against HSV-2. Generalizations regarding the unpredictability of treating all viruses is unpersuasive in view of the specific evidence that multiple marketed products exhibit activity against both HSV-1 and HSV-2.

Amount of Direction and Working Examples

The Office Action does not question the sufficiency of the disclosure with regard to how to make the compounds of the invention, how to formulate them or how to administer them. Thus, it is understood that the Examiner acknowledges the specification to contain appropriate direction and working examples.

Breadth of the Claims

The breadth of the Applicants' claims is consistent with not only the disclosure but also the level of skill in the art as to the treatment of HSV-1 and HSV-2 and conditions and diseases associated therewith. There are several (at least 5) common features between the compounds encompassed by the genus.

Quantity of Experimentation Needed

To the extent any experimentation is required for the administration of a compound of formula (I) to a subject for the treatment of HSV-2 or for a condition or disease associated with a herpes viral infection selected from HSV-1 and HSV-2, it is routine given the state of the art as discussed above.

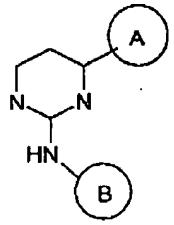
Accordingly, it is respectfully submitted that analysis of the eight Wands Factors indicates that undue experimentation would not be required to make and use the claimed invention and accordingly, the instantly pending claims satisfy the

requirements of section 112, first paragraph. Withdrawal of this rejection is therefore respectfully requested.

Section 102(b) Rejection Overcome

Claims 1-7, 9-12 and 14-16 currently stand rejected under 35 U.S.C. §102(b), the Office Action stating that the claims are anticipated by PCT Publication No. WO 01/14375 to Thomas ("Thomas 375"). Applicants respectfully traverse this rejection.

In order to anticipate, the cited reference must disclose every limitation of the claim. Thomas 375 is directed toward compounds having the following moiety:



wherein Ring B is limited to phenyl or phenyl fused to a C_{5-7}cycloalkyl.
In the instantly pending claims, R^2 is not defined in a manner that will encompass such compounds e.g., R^2 is not defined as -N(H)-phenyl or -N(H)-phenyl fused to C_{5-7}cycloalkyl. Thomas 375 neither discloses nor suggests any compounds, including compounds 1-98 which possess a different amine-linked moiety on the pyrimidine. Accordingly, Thomas 375 does not anticipate the instantly pending claims. Withdrawal of this rejection is respectfully requested.

Section 103(a) Rejection Overcome

Claims 1-7, 9-12 and 14-16 currently stand rejected under 35 U.S.C. §103(a), the Office Action stating that the claims are anticipated by PCT Publication No. WO 01/14375 to Thomas ("Thomas 375"). Applicants respectfully traverse this rejection.

As noted above, Thomas 375 neither discloses nor suggests any compounds wherein the pyrimidine ring is substituted by a group within the definition of Applicant's claimed R^2. The Office Action has identified no motivation to modify the teaching of Thomas 375 in a manner that would result in compounds within the instantly pending claims. Specifically, there is no motivation to replace the amine-phenyl moiety of Thomas 375 for any other substituent. The instantly claimed compounds are disclosed for a different use, namely the treatment of herpes viruses.

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Thomas 375 teaches cell cycle kinase inhibitors. Because the disclosed uses of the compounds differ, there is no motivation to modify the compounds of Thomas 375. Further, there is no reasonable expectation of success that modifying the Thomas 375 by replacing the amino-phenyl group with an entirely different group would result in compounds having the disclosed utility. Accordingly, it is respectfully submitted that the Office Action has not established a prima facie case of non-obviousness and withdrawal of this rejection is respectfully requested.

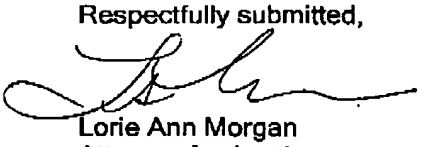
Notice of Co-Pending Applications

The Examiner is respectfully requested to take note of the following co-pending applications which are commonly owned.

10/433884 (USPN 6919352)	6/5/2003
11/082466 (Div of 844)	3/17/2005
11/084410 (Cont of 844)	3/18/2005
10/473751 (USPN 6962914)	10/1/2003
11/095212 (Div of 751)	3/31/2005
11/095361 (Cont of 751)	3/31/2005

Applicants respectfully submit that the instant application is in condition for substantive examination, which action is respectfully requested. The Examiner is invited to contact the undersigned at (919) 483-8222, to discuss this case, if desired.

Respectfully submitted,



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